

## Appendix G

### Reach-Back Capability and Federal Response Assets

Reach-back is a process that employs communications assets to identify and bring to bear resources not present at the site that support and integrate the advise, assess, and assistance mission of the CST. The FRP establishes a process and structure for the systematic, coordinated, and effective delivery of federal assistance to address the consequences of any major disaster or emergency declared under the Stafford Act and the Emergency Assistance Act. The FRP employs a functional approach that groups the 12 ESFs under the types of direct federal assistance that a state is most likely to need (such as mass care, health and medical services), and the kinds of federal operations support necessary to sustain federal response actions (such as transportation, communications). Each ESF is headed by a designated agency. ESFs are expected to support one another in carrying out their respective missions. CSTs can facilitate reach-back to the designated ESF authority (if required) in support of an incident response. The ESFs and their designated authorities are listed in Table G-1.

**Table G-1. Emergency Support Function Designation Matrix**

Emergency Support Function	Designated ESF Authority
Transportation	Department of Transportation
Communications	National Communications System
Public Works and Engineering	DOD
Firefighting	US Department of Agriculture
Information and Planning	FEMA
Mass Care	American Red Cross
Resource Support	GSA
Health and Medical Services	Department of Health and Human Services
Urban Search and Rescue	FEMA
Hazardous Materials	EPA
Food	USDA
Energy	DOE

#### GENERAL

G-1. Technical reach-back is the ability to contact technical SMEs when a technical issue exceeds the on-scene SME's capability. Reach back should be conducted using established unit protocols. Many of the listed reach-back resources have other primary missions and are not specifically resourced for reach-back. Issues may include the following:

- **Nonstandard agent identification of CBRNE and TIM.** CSTs are trained to detect and identify certain military warfare agents. If a TIM is used or is suspect, then CST personnel must obtain technical information. This information could include persistency, medical effects, and decontamination or protection requirements.
- **Modeling.** During CST operations, the spread of contamination must be limited. Technical reach-back should provide the ability for detailed analysis of the area to assist in determining downwind hazard areas and locating staging areas, OPCENs, decontamination sites, etc. Tools that can be used include decision support tools (such as hazard prediction and assessment capability), consequence assessment tool set, joint assessment of catastrophic events, etc.
- **Sample evacuation.** Sample evacuation can be an important part of CST operations. Sample evacuation of samples can provide critical information for patient treatment and/or be used as evidence for prosecution.
- **Hazard prediction.** Technical experts can use modeling to provide a better indication of where vapor, liquid, or aerosolized hazards may occur.

G-2. Reach back can be accomplished through various means, from the telephone to broadband satellites.

G-3. Reach back could also result in an RFA and in response to a validated RFA that could originate from an LFA (such as FEMA).

G-4. This appendix briefly addresses reach-back capability and various response agencies that could potentially respond to an incident.

## TECHNICAL REACH-BACK CAPABILITIES

G-5. The following technical reach-back capability is available if technical issues exceed on-site, local SME capabilities (see Table G-2). Reach back should be conducted using established local protocols and SOPs.

**Table G-2. Technical Reach-Back Points of Contact**

National Response Center, Chemical Terrorism/Chemical Biological Hot Line	1-800-424-8802
Technical Chemical and Biological Assistance Hot Line	1-877-269-4496
DTRA	1-877-244-1187
AFRRI	1-301-295-0316/0530
USAMRIID	1-888-872-7443
USAMRICD	1-800-424-8802

## NATIONAL RESPONSE CENTER, CHEMICAL/BIOLOGICAL HOT LINE

G-6. The National Response Center (NRC) mans the hot line service and serves as an emergency resource for first responders to request technical assistance during an incident. The intended users include trained emergency personnel, such as emergency operators and first responders (such as firefighters, police, and EMTs who arrive at the scene of a CB terrorist incident). Other potential users may include the state EOCs and hospitals that may treat victims of agent exposure.

G-7. The USCG operates the NRC, and trained operators staff the hot line 7-days a week, 24-hours a day. Operators use extensive databases and reference material in addition to having immediate access to the nation's top SMEs in the field of NBC agents. NRC duty officers take reports of actual or potential domestic terrorism and link emergency calls with applicable SMEs (such as US Army SBCCOM, USAMRICD) for technical assistance and with the FBI for federal response actions. The NRC also provides reports and notifications to other federal agencies, as necessary. Specialty areas include the following:

- Detection equipment.
- PPE.
- Decontamination systems and methods.
- Physical properties of CB agents.
- Toxicology information.
- Medical symptoms from exposure to CB agents.
- Treatment of exposure to CB agents.
- Hazard prediction models.
- Federal response assets.
- Applicable laws and regulations.

G-8. The CB hot line is a joint effort of the USCG, FBI, FEMA, EPA, DHHS, and DOD. The NRC is the entry point for the CB hot line. The NRC receives basic incident information and links the caller to the DOD and FBI CB and terrorism experts. These and other federal agencies can be accessed within a few minutes to provide technical assistance during a potential CB incident. If the situation warrants, a federal response action may be initiated.

G-9. Use the local established policies and procedures for requesting federal assistance before contacting the CB hot line. State and local officials can access the hot line in emergency circumstances by calling 1-800-424-8802.

## **TECHNICAL CHEMICAL AND BIOLOGICAL ASSISTANCE HOT LINE**

G-10. The US Army SBCCOM hotline provides technical assistance to emergency responders. The hotline is manned and operated 7-days a week, 24 hours a day. Technical CB assistance from SBCCOM can be obtained by calling 1-877-269-4496.

## **DEFENSE THREAT REDUCTION AGENCY**

G-11. DTRA can provide technical reach-back information and services for on-scene personnel. The focal/coordination point for support is through the DTRA EOC.

## **ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE**

G-12. The Armed Forces Radiobiological Research Institute (AFRRI) can provide DOD technical support capability for nuclear/radiological incidents or accidents.

## **US ARMY MEDICAL RESEARCH INSTITUTE OF INFECTIOUS DISEASES**

G-13. The USAMRIID provides medical and scientific SMEs and technical guidance to commanders and senior leaders on the prevention and treatment of hazardous diseases and prevention and the medical management of biological casualties. The USAMRIID serves as the DOD reference center for the identification of biological agents from clinical specimens and other sources. The USAMRIID can provide technical guidance for assessing and evaluating a biological terrorist incident from initial communication of the threat through incident resolution.

## **US ARMY MEDICAL RESEARCH INSTITUTE FOR CHEMICAL DEFENSE**

G-14. The USAMRICD provides medical and scientific SMEs and technical guidance to commanders and senior leaders on the prevention and treatment of chemical casualties. The USAMRICD can provide technical guidance for assessing and evaluating a chemical terrorist incident from initial communications of the threat through incident resolution.

## **RESPONSE AGENCIES**

G-15. This section describes military and government agencies that could be tasked to respond to a request for CM support. The discussion does not include all response agencies.

## **DEFENSE THREAT REDUCTION AGENCY OPERATIONS CENTER**

G-16. The DTRA OPCEN enables first responders and warfighters to deal with CBRNE threats through on-line assistance and provides a wide-band infrastructure for user support.

G-17. As part of the Combat Support Directorate in DTRA, the OPCEN is manned 7-days a week, 24-hours a day, and has the requisite communications links to act as the single POC for on-line assistance and the dispatch of other agency resources, as required.

## **CONSEQUENCE MANAGEMENT ADVISORY TEAM, DEFENSE THREAT REDUCTION AGENCY**

G-18. The CM advisory team (CMAT) deploys to provide joint technical support to the supported commander with expertise in CBRNE response procedures, requirements, resources, C<sup>2</sup>, health physics, PA, legal affairs, and specialized technical information. The CMAT coordinates technical information flow by controlling and resourcing requirements passed to the supported TOC.

G-19. The CMAT is able to task-organize and deploy to support commanders in the technical aspects of CBRNE accidents or incidents. The incident-tailored force brings with it secure communications, trained technical experts, hazard prediction modeling, and rapid reach-back capability.

## **WEAPONS OF MASS DESTRUCTION ASSESSMENT AND ANALYSIS CENTER, DEFENSE THREAT REDUCTION AGENCY**

G-20. The WMD Assessment and Analysis Center (WMDAAC) provides on-line support and crisis action planning through scenario development and war game and exercise participation.

G-21. The WMDAAC, through network-centric support, enables warfighters and domestic first responders to—

- Access computer modules for CBRNE analysis and consequence prediction.
- Access high-resolution weather data.
- Access data files on CBRNE materials.
- Access teleconferencing capabilities and national experts.
- Perform on-line collaborative computing.

## **JOINT NUCLEAR-ACCIDENT COORDINATION CENTER, DEFENSE THREAT REDUCTION AGENCY**

G-22. The Joint Nuclear Accident Coordination Center (JNACC) is operated in coordination with the DOE. The JNACC provides a centralized center for maintaining and exchanging information with those agencies that are capable of providing radiological assistance and for coordinating that assistance in response to an accident or incident involving radioactive materials.

G-23. The JNACC maintains current information on the location and capabilities of specialized DOD and DOE teams, organizations, and individuals capable of responding to accidents or incidents involving radioactive materials.

## **EDGEWOOD CHEMICAL-BIOLOGICAL CENTER**

G-24. The Chemical Support Division (CSD) serves as the Edgewood Chemical-Biological Center (ECBC) POC for operations associated with chemical surety materiel (CSM)-related remediation and restoration at the Edgewood Area of Aberdeen Proving Ground, Maryland, and formerly used defense sites. The CSD also manages and maintains support

services and capabilities associated with material, facilities, and equipment vital to the ECBC mission. The CSD provides technical and program management support to the DOD and other governmental agencies associated with processing chemical facilities, equipment, and ammunition.

G-25. The CSD can provide a full range of CSM-related air, water, and soil analyses in support of the ECBC, DOD, and other governmental agency operations and remediation efforts. The CSD also provides and maintains a repository of chemical agent standard analytical reference materials in support of the DOD chemical defense mission. The CSD maintains specialized equipment to accomplish its assigned mission and a detailed unit equipment listing.

G-26. The CSD can provide low-level monitoring using the real-time analytical platform (RTAP), which is a vehicle containing a fully functional chemical analysis system. In its current configuration, the RTAP can automatically sample ambient air to detect the presence of specific CW agents (nerve and mustard agents). The RTAP uses a gas chromatograph (GC) miniature chemical agent monitor system equipped with an automatic, continuous air-sampling system. The GC is equipped with a flame photometric detector (FPD) and uses ultrapure laboratory air, hydrogen, and nitrogen supplied via a built-in generator. The analysis process allows for the detection of the toxic chemical agents sarin (GB), soman (GD), mustard gas (HD), and o-ethyl s-diisopropylaminomethyl methylphosphonothiolate (VX), in the same sample. The CSD also has the mobile environmental analytical platform (MEAP) that provides accurate and legally defensible determinations of CW material (especially CSM), agent degradation products, World War I CW agents, and other compounds of military significance in environmental samples. The MEAP is a fully functional, trailer-mounted laboratory that is able to perform critical on-site chemical analysis and monitoring.

#### **CHEMICAL BIOLOGICAL—RAPID-RESPONSE TEAM**

G-27. The mission of the CB rapid-response team (CB-RRT) is to, on order, deploy and establish a robust and integrated capability to coordinate and synchronize DOD technical assistance (medical and nonmedical) to support the LFA in both crisis management and CM of a CBRNE incident or a designated national security special event. The focus of the CB-RRT is on domestic events, but it can also respond worldwide.

G-28. The role of CB-RRT is to provide a technical support package specifically tailored for a CBRNE incident response. The CB-RRT offers a highly deployable, independent OPCEN that synchronizes DOD CBRNE technical expertise. The CB-RRT is composed of members of the armed forces and employees of DOD with specialized CB, medical, and EOD expertise who are capable of providing technical assistance to aid federal, state, and local officials in the response to and mitigation of incidents involving CBRNE containing BW materials (or related HAZMAT). The CB-RRT can be under the OPCON of a geographic COCOM, joint special operations task force (JSOTF), or another designated joint task force

(JTF) or in direct support of an LFA. The unit is collocated with the SBCCOM 24-hour OPCEN.

G-29. The CB-RRT is designed to provide forward elements to assist the LFAs (FBI, FEMA, EPA, US Secret Service [USSS], USPHS, and others) with technical expertise and contingency development options during times of crisis. In addition, through the state-of-the-art SBCCOM OPCEN, the CB-RRT brings together leading CB technical experts without the need for the experts to be deployed to an incident site.

G-30. Technical elements that are managed and coordinated by the CB-RRT include, but are not limited to, the US Army Technical Escort Unit (TEU), US Army ECBC, US Army ECBC Forensic Analytical Center (FAC), US Army Medical Command (MEDCOM) Special Medical Augmentation Response Teams (SMARTs) and Regional Medical Commands (RMC), USAMRICD, USAMRIID, US Army Center for Health Promotion and Preventive Medicine (CHPPM), US Navy Medical Research Center (NMRC), US Navy Environmental Health Center (NEHC), US Navy Environmental and Preventive Medicine Units (NEPMU), and US Naval Research Laboratory (NRL).

G-31. Planning and consideration tools are essential to successfully minimize the impact of actual or potential terrorist attacks. The heart of the CB-RRT's concept of operations is an integrated, self-contained, and deployable command, control, communications, computers, and intelligence (C<sup>4</sup>I) infrastructure that allows for integrated, structured, and controlled planning and incident response. The CB-RRT deploys with two primary communications systems—the Deployable Communications System (DCS) and the Deployable Response and Graphics Operations Network (DRAGON) system—that are the heart of this C<sup>4</sup>I infrastructure.

- The DCS is a wireless-to-wire communications gateway system offering increased simplicity, mobility, operational flexibility, and rapid deployment. The DCS is a self-sustaining mobile satellite communications system that supports the forward-deployed elements with telephone (secure and nonsecure) interface, video teleconference interface, secret Internet protocol router network (SIPRNET) (dial up), and digital cellular telephone service that is separate from local networks. The CB-RRT communications system uses the T1 satellite reach-back capability to link C<sup>2</sup> nodes with the SBCCOM OPCEN and other operations and technical centers.
- The DRAGON system is a communications suite of computers and ancillary hardware that seamlessly integrates all aspects of communications and emergency planning/response software. The DRAGON is a local area network/wide-area network (LAN/WAN) designed for multiple computer users who gain access by hard wire, satellite, or Internet. The system is used to provide SA to users, and it serves as the main information management tool for the CB-RRT staff.

G-32. Additional assets that may support, or be supported by the CB-RRT include, but are not limited to, the DTRA, USMC chemical-biological incident response force (CBIRF), NG WMD CSTs, US Army 52nd

Ordnance Group, and National Capital Render Safe Organization (NCRSO).

G-33. The CB-RRT can deploy using US Army SBCCOM organic air assets, US Army Transportation Command (TRANSCOM) assets, or commercial air transportation. The CB-RRT is self-sustaining for 72 hours.

#### **ARMY TECHNICAL ESCORT UNIT**

G-34. The unit provides worldwide, no-notice capability to conduct field sampling, identification, and verification of chemical agents and to monitor, recover, decontaminate, escort, and mitigate hazards associated with CB materials in compliance with international, federal, state, and local laws.

G-35. The capabilities of the TEU are multifaceted, to include the following:

- Providing technical escort of CB munitions and material.
- Rendering safe and/or disposing of weaponized CB munitions and material.
- Conducting technical intelligence exploitation of foreign CB munitions and material.
- Providing CB response teams to government agencies as required to support national and/or international counterproliferation policies.
- Operating in hazardous environments.

G-36. The TEU basic operational element is the Chemical-Biological Response Team (CBRT). The unit can deploy CBRTs from Aberdeen Proving Ground, Maryland; Dugway Proving Ground, Utah; and Pine Bluff Arsenal, Arkansas. In general, each CBRT is comprised of CB and EOD specialists, but the team composition can be tailored to the mission. The CBRT can be deployed to suspect or actual incidents involving CB agents, munitions, and other HAZMAT to transport the suspected samples to the appropriate labs. The TEU CBRTs maintain a rapid-response capability in detection, decontamination (neutralization), containment (packaging), dismantlement (render safe), and disposal (transport and escort only) of WMD containing CB agents or related materials. The CBRT also maintains an information reach-back capability to TEU EOC for communications with CB agent, explosive ordnance, and disaster response SMEs.

## **ARMY EXPLOSIVE ORDNANCE DISPOSAL GROUP**

G-37. The unit provides EOD bomb squad units to defeat or mitigate the hazards from conventional, nuclear, or chemical military munitions and WMD throughout CONUS as requested by local, state, and federal law enforcement or military authorities.

G-38. The capabilities of the US Army EOD group are multifaceted, to include the following:

- Identifying and rendering safe foreign and US military munitions (chemical, conventional, and nuclear).
- Disposing of munitions encountered and rendering safe terrorist IEDs (such as pipe bombs, booby traps).
- Responding to CBRNE incidents.
- Conducting training in military munitions and IEDs to law enforcement agencies (LEAs).
- Providing support to the USSS and the Department of State (DOS).

G-39. There are EOD companies that are configured to respond to a WMD incident. These designated companies receive specific training on WMD. They possess unique equipment to counter booby traps and are trained to operate specialized equipment (provided by the DOE) used for diagnostics and for rendering safe/mitigating a WMD nuclear initiation.

## **ARMY BIOLOGICAL DETECTION COMPANY (CORPS)**

G-40. This unit conducts biological detection to provide rapid detection and presumptive identification of large-area biological aerosol attacks.

G-41. The Biological Integrated Detection System (BIDS) was developed in response to the BW agent vulnerability of US forces during Operation Desert Storm. The BIDS is a multicomponent system that provides monitoring, sampling, detection, and presumptive identification of BW agents.

## **ARMY MADIGAN MEDICAL CENTER DISASTER ASSISTANCE RESPONSE TEAM**

G-42. The disaster assistance response team (DART) provides a rapid-deployment unit with triage, ambulatory/litter, and advanced medical/trauma stabilization capabilities for US Army needs related to NBC incidents in the western US.

G-43. The DART capabilities include triage, decontamination, and stabilization of contaminated and multiple injured casualties. The team has 24-hour access to board-certified toxicologists. Team members have received substantial training in basic and advanced life support, trauma life support, HAZMAT, confined-space medicine, crush injury medicine, and emergency medical response to terrorism.

## **ARMY RESPONSE TASK FORCE—EAST/RESPONSE TASK FORCE—WEST**

G-44. When directed, a response task force-east/response task force-west (RTG-E/RTG-W) supports the LFA during an incident. The RTF commander may assume OPCON of committed DOD elements (less US Special Operations Command [USSOCOM] and US Army Corps of

Engineers [USACE]), coordinate military support of CM operations, and redeploy units when DOD disengagement criteria are met.

G-45. The RTF commander establishes a fully functional CP near the incident within 24 hours of notification. He exercises OPCON of all federal DOD resources committed to providing MSCA, provides liaison officers to appropriate civil agencies, and receives LNOs from appropriate military commands and agencies.

G-46. The RTFs are composed of members of the US First and Fifth Army HQ staff. The initial response team establishes initial liaison with the supported civil agencies and coordinates support for the follow-on personnel. The predesignated DCO and DCE serve as special staff augmenting the RTFs.

#### **ARMED FORCES RADIOBIOLOGY RESEARCH INSTITUTE MEDICAL RADIOBIOLOGY ADVISORY TEAM**

G-47. The medical radiobiology advisory team (MRAT) responds as part of the DTRA CMAT and is available at all times. The MRAT can provide on-site training to health professionals on the management of nuclear or radiological casualties. The team provides state-of-the-art expertise and advice to commanders and primary care providers following a nuclear or radiological accident (nuclear weapons, reactor, or radiological material). The MRAT provides access to biodosimetry and bioassay support to incident responders and local health authorities.

G-48. The MRAT is a primary source of medical and radiological health information dealing with the management of casualties from nuclear warfare weapons and radiological dispersal-device accidents. Senior medical experts provide on-site advice to physicians on—

- Resuscitative techniques for radiation injury and radionuclide contamination therapy.
- The use of investigative chelation therapy for internal contamination by radioactive material.
- Therapeutic drug combinations for acute radiation injury, infection, and protection against late-occurring diseases (such as cancer).
- Radiation injury interventional therapy and dose estimate bioassay.

G-49. The MRAT is in contact with other SMEs at the AFRRI for additional information. The MRAT is led by a physician and is normally comprised of three individuals for initial deployment; additional team members may deploy if the situation dictates. Team members are on call 24 hours a day by either telephone or pager. The team is equipped with PPE to perform its intended mission, related general-purpose equipment, and supplies.

## **MEDICAL CHEMICAL-BIOLOGICAL ADVISORY TEAM**

G-50. The medical, chemical-biological advisory team (MCBAT) provides input in the development of operating procedures and training in the management of chemical agent casualties. The MCBAT also provides clinical advice and consultation in matters related to the initial and long-term management of chemical agent casualties at the incident site. The experts on this team are from the USAMRICD and the USAMRIID. They provide essential medical information during the recovery phase of the operation for the safe return to normal activities. The MCBAT also provides on-site training to medical professionals on the management of CB casualties.

G-51. The MCBAT is the primary source of medical information dealing with the management of CW agent casualties for the federal government. Through the FBI or agencies within the DHHS, the MCBAT provides consultation to state, city, or local agencies. As necessary, the MCBAT supervises the collection of biological samples (bodily fluids) for subsequent verification of chemical agent exposure that can be used to facilitate the confirmation, diagnosis, and treatment.

## **MEDICAL RESEARCH INSTITUTE OF INFECTIOUS DISEASES**

G-52. The institute conducts research to develop strategies, products, information, procedures, and training programs for medical defense against BW threats and infectious diseases. It develops products—such as vaccines, drugs, and diagnostic tests—and medical management procedures to protect military personnel against biological attack or against endemic infectious diseases. It supplies medical and scientific SMEs who provide technical expertise and guidance to commanders and senior leaders on the prevention and treatment of hazardous diseases and the management of biological casualties. It serves as the DOD reference center for identification of biological agents from clinical specimens and other sources.

G-53. The USAMRIID has many capabilities that can be employed for assessing and evaluating a biological terrorist incident, from initial communications of the threat through incident resolution. The primary capabilities that the USAMRIID provides are intellectual capability (consulting), extensive fixed confirmatory and reference laboratory facilities, and the aeromedical isolation team (AIT).

## **MARINE CORPS CHEMICAL BIOLOGICAL INCIDENT RESPONSE FORCE**

G-54. When directed, the CBIRF forward deploys to a domestic or foreign area in order to provide FP and/or mitigation in the event of a WMD incident. The CBIRF is prepared to respond to no-notice WMD incidents with a rapidly deployable initial response force (IRF) and a follow-on force if required. The CBIRF also conducts FP training for fleet units.

G-55. The CBIRF is composed of 350 to 375 US Marine Corps (USMC) and US Navy (USN) personnel. In garrison, the CBIRF is under the OPCON and administrative control (ADCON) of the II Marine Expeditionary Force (II MEF) and Marine Corps Forces, Atlantic (MARFORLANT). The CBIRF is an incident-response force that executes CM operations in support of a COCOM or LFA. The CBIRF has limited

organic equipment decontamination capability but does not conduct detailed equipment decontamination (DED) or area decontamination operations. Furthermore, the majority of CBIRF personnel are trained in Level A and B operations. TIC and TIM are potential threats to US forces, even outside the continental US (OCONUS), since littoral areas include port and industrial complexes where storage and manufacture of these materials are common. The CBIRF also has state-of-the-art monitoring and detection equipment used to identify, sample, and analyze NBC hazards, including TIC and TIM as well as oxygen (O<sub>2</sub>) and lower explosive levels (LELs).

G-56. The CBIRF provides C<sup>2</sup> liaison teams to other agencies or commands, interfaces with local and military commanders, coordinates all on-site CBIRF operations; establishes data/voice reach-back to scientific and medical advisors, and prepares CBR plume models. Other examples of CBIRF capabilities include—

- Conducting agent detection and identification.
- Performing sampling and collection.
- Monitoring concentration and exposure levels.
- Providing decontamination support for unit personnel and first responders.
- Conducting casualty decontamination on the scene.
- Conducting victim searches.
- Performing technical rescue and casualty extraction.
- Conducting emergency medical care in the contaminated area.
- Performing casualty triage and stabilization.
- Providing mobile lab services.

## **NAVAL MEDICAL RESEARCH CENTER**

G-57. The mission of the NMRC is to defend members of the armed forces against a biological threat in a theater of operations (TO); therefore, rapid biological-detection methods are essential for prompt medical intervention and successful mission accomplishment. To provide for such needs, the NMRC (Biological Defense Research Program [BDRP]) has formed a scientific research program for the development of rapid detection and identification methods for BW agents.

G-58. The BDRP has a transportable, biological field laboratory. The field lab is comprised primarily of commercially available scientific lab equipment, except for the HHA (tickets). The field lab can process approximately 50 samples (4 to 5 samples a day for a period of approximately 2 weeks) before replenishment of supplies is required.

## **NAVY EXPLOSIVE ORDNANCE DISPOSAL UNITS**

G-59. The mission of the unit is to eliminate hazards from ordnance that jeopardize operations conducted in support of the national military strategy by providing specially trained, combat-ready, highly mobile forces. Navy EOD units are employed in a variety of operations, and across a wide spectrum of warfare areas in the execution of this mission.

G-60. Navy EOD units are structured for a relatively small footprint and rapid response. EOD units can split into smaller units to respond to

multiple EOD incidents/tasks, which are within the capabilities of a smaller force. Each unit is trained in a variety of mobility and survivability skills enabling it to operate in a variety of environments both afloat and ashore. EOD units are capable of responding to underwater and surface ordnance and NBC threats. They can also provide support for diving and demolition, intelligence collection, aircraft and ordnance recovery, range and underwater clearance, riverine operations, Chief of Naval Operations (CNO) projects, special warfare (SPECWAR) operations, and other special operations.

#### **AIR FORCE RADIOANALYTICAL ASSESSMENT TEAM**

G-61. The radioanalytical assessment team (RAT) is a globally responsive specialty asset team that responds to radiation incidents/accidents, providing health physics and radiological support.

G-62. The RAT provides field radioanalytical support to the assigned theater medical authority. It measures, analyzes, and interprets environmental and occupational samples for their content of radioactivity, providing expert guidance on the type and degree of radiological hazards that face deployed forces. The RAT can deploy on short notice to assess radiological hazards following a nuclear or radiological incident/accident. The RAT will perform radioanalytical analysis on environmental samples (such as swipes, soil, water, air, and foodstuffs) and occupational samples (such as the whole body, breath, urine, and feces). Analysis results are interpreted for the impact on deployed forces and noncombatants. The information is compiled for use by the medical authority for dose avoidance, dose reduction, dose assessment, risk communications, and additional requirements for effective CM. The team has expertise in areas of health physics, environmental monitoring, radiation measurement, and medical laboratory operations.

#### **SPECIAL MEDICAL AUGMENTATION RESPONSE TEAM**

G-63. These teams are organized and equipped to respond to disasters to include CBRNE incidents. Three SMARTs are so designed that their response to CBRNE events can provide critical medical support activities. The US Army CHPPM has three preventive medicine (PVNTMED) threat assessment SMARTs (identified as SMART-PM). Each US Army RMC has a CB SMART (identified as SMART-CB). The US Army Veterinary Command has four SMARTs: food safety, veterinary PVNTMED, and animal health care (identified as SMART-V). Additional types of SMARTs are also organized and equipped for a rapid response. (For additional information on SMARTs, see FM 8-42.)

### **Special Medical Augmentation Response Team—Preventive Medicine**

G-64. The mission of this team is to provide initial disease and environmental health threat assessments. This is accomplished before or in the initial stages of a contingency operation or during the early or continuing assistance stages of a disaster.

G-65. Although the basic team organization is standardized, it may be tailored to the requirements of the specific mission if the Commander, US Army Medical Command (USAMEDCOM) determines additional specialties are needed. It can—

- Perform on-site initial medical threat assessments, limited and rapid hazard sampling, monitoring and analysis, health risk characterization, and needs assessment for follow-on PVNTMED specialties or other medical treatment support in the incident site or AO.
- Prepare PVNTMED estimates.
- Perform analysis of, but not limited to, endemic and epidemic disease indicators within the incident site or AO; environmental toxins related to laboratories; production and manufacturing facilities, nuclear reactors, or other industrial operations; and potential CBRNE hazards.
- Provide medical threat information and characterize the health risk to deployed forces or civilian populations.
- Provide guidance to local health authorities on surveying, monitoring, evaluating, and controlling health hazards relative to naturally occurring and man-made disasters.
- Assist local health authorities in surveying, monitoring, evaluating, and controlling health hazards relative to naturally occurring and man-made disasters.

### **Special Medical Augmentation Response Team—Chemical-Biological**

G-66. This team consists of trained medical teams that can deploy in response to a CBR incident. Examples of incidents that may require a rapid response include—

- An accident involving the transport or storage of weapons.
- The release of CW or BW agents or radiological material.
- A leak of an industrial chemical, infectious material, or radioactive material.

G-67. This team can provide medical advice and consultation to commanders or local medical and political authorities for preparation of a response to a threat or actual incident. It can also provide medical advice to commanders or local authorities on the protection of first responders and other health care personnel, casualty decontamination procedures, first aid (for nonmedical personnel), initial medical treatment, and casualty handling. The initial advice includes signs, symptoms, first aid (self-aid, buddy aid, and combat lifesaver aid for military personnel), and initial treatment when an incident has occurred. It also assists in facilitating the procurement of needed resources. During an incident response, all response personnel must first protect themselves from the agent/material and then provide response assistance to victims. The

SMART-CB will conduct the initial response. Upon arriving at the incident site or AO, it will determine the types and number of other responders required. The SMART-CB may, after initial assessment of the situation, elect to use telemedicine reach-back or call in domestic or foreign response assets organized at the national level.

#### **Special Medical Augmentation Response Team—Veterinary**

G-68. The mission of this team is to assess the degree of existing destruction and/or impending risk and to determine recommended follow-on actions relative to animal health and food safety. The SMART-V also advises local first responders on food safety/veterinary PVNTMED issues and triage and treatment of injured animals. It provides limited triage and emergency treatment of injured animals, including lifesaving emergency procedures or, when appropriate, euthanasia to prevent undue suffering of those cases encountered during the assessment process. It provides veterinary care for military search-and-rescue dogs. When authorized, it also provides care to other governmental and nongovernmental agency animals participating in the operation.

G-69. This team can assess food contamination and the potential for food-borne illness outbreaks, determine the magnitude of animal involvement in public health and zoonotic disease threats, make initial assessments, recommend corrective actions, provide liaison with follow-up relief organizations/agencies, assist in establishing control for the incident site or AO, and coordinate with all known animal medicine/food safety agencies and organizations in the incident site or AO.

#### **AIR FORCE THEATER EPIDEMIOLOGY TEAM**

G-70. The theater epidemiology team (TET) provides threat assessments of environmental and occupational factors, evaluates infectious disease risks and disease and nonbattle injury (DNBI) rates from all sources, and recommends interventions to minimize degradation of mission staff. These tasks are accomplished as part of the initial site/theater assessment and during ongoing operations and disease and environmental health threat assessments.

G-71. The TET is a light, mobile, multidisciplinary team with limited environmental/occupational sampling equipment. It uses a portable high-end computing capability. It uses a communications infrastructure that allows for theater-wide data collection; coordination with JTF, Air Force forces (AFFOR), and COCOM surgeon general staffs; linkage with other PVNTMED teams (such as an AF preventive aerospace medicine team, a US Army SMART-PM); and an immediate reach-back to SMEs at the Air Force Institute for Environment, Safety, and Health Risk Analysis (AFIERA).

G-72. The TET has a standardized, five-person team that consists of a PVNTMED physician, a public health officer and supporting technician, and a bioenvironmental engineer and supporting technician. The composition can be tailored to include other specialties (such as tropical medicine, laboratory officer, entomologist). The basic allowance standard includes basic bioenvironmental sampling equipment and supplies. The ruggedized advanced pathogen identification device (RAPID) with

selected probes and primers is available to assist with biological-agent identification during outbreak investigations.

#### **ARMY RESERVE COMPONENT DECONTAMINATION-CAPABLE COMPANIES**

G-73. The domestic response mission of these units is to provide casualty decontamination in support of CM operations.

G-74. These units, while designed for overseas deployment, have also been tasked by the SECDEF to provide domestic-response casualty decontamination (DRCD) in support of CM. These units are neither designed nor intended to replace functions carried out under the ICS nor to replace those functions normally performed by the emergency first-responder community. Instead, these units provide additional capability, as needed, to support the nation. These assets are formally requested for support by using the formal military assistance to civil authorities system. The best use of these units is for them to be pre-positioned in preparation for a high-threat, high-visibility event, such as the Olympic Games. These units are not designed for a rapid response but can be mobilized and deployed within days.

G-75. These units are equipped with a platoon set of domestic-response equipment to decontaminate both ambulatory and nonambulatory casualties. The set includes a quickly erectable tent with runoff containment included for the actual decontamination, two other tents for sun protection for the workers and victims, showers for washing and rinsing, and rollers for decontaminating nonambulatory victims.

#### **ARMY RESERVE COMPONENT CHEMICAL RECONNAISSANCE-CAPABLE COMPANIES**

G-76. The domestic-response mission of these units is to provide dismounted NBC reconnaissance.

G-77. The standard chemical reconnaissance companies or elements smaller than companies, while designed for overseas deployment, have also been tasked by the SECDEF to provide dismounted NBC reconnaissance. These units are neither designed nor intended to replace functions carried out under the ICS nor to replace those functions normally performed by the emergency first-responder community. Instead, these units provide additional capabilities, as needed, to support the nation. These assets are formally requested for support by using the formal military assistance to civil authorities system. The best use of these units is for them to be pre-positioned in preparation for a high-threat, high-visibility event, such as the Olympic Games. These units are not designed for a rapid response but can be mobilized and deployed within days.

G-78. These units are equipped with enhanced chemical and radiological detection equipment (multigas detectors, commercial chemical detection equipment, and AN/PDR-77 radiac meters) and commercial OSHA Level A equipment (such as, suits, SCBA) to allow them to operate with local first responders throughout the nation. These units are capable of working soldiers in all OSHA protection levels.

## OTHER FEDERAL RESPONSE ASSETS

G-79. Other federal response assets could include Department of Transportation (DOT), FEMA, DHHS, FBI, EPA, and DOE activities.

- Department of Transportation.
  - **USCG Federal On-Scene Coordinators (FOSCs).** Under the authority of the National Contingency Plan (NCP), USCG FOSCs coordinate all federal containment, removal, and disposal efforts and resources during an incident in the coastal zone.
  - **National Strike Force (NSF).** The USCG NSF provides 24-hour access to special decontamination equipment for chemical releases and provides advice to the OSC in hazard evaluation, risk assessment, multimedia sampling and analysis, on-site safety, clean up techniques, and more. The NSF portable, chemical agent instrumentation is capable of detection and identification, and entry level capabilities using Levels A through C PPE. Other NSF capabilities include pumping, cost documentation support, and monitoring/oversight of contractors.
- Federal Emergency Management Agency.
  - **Urban Search and Rescue Team (USRT).** The USRTs save lives and protect property from both natural and man-made catastrophic urban disasters. The USRTs have a limited HAZMAT capability.
  - **Rapid-Response Information System (RRIS).** The RRIS is a database containing information on federal NBC response capabilities, NBC agent and munition characteristics, and safety precautions.
- Department of Health and Human Services.
  - **Metropolitan Medical Strike Team (MMST).** The MMST operates as a specially organized team. Its capabilities include agent detection and identification, patient decontamination, triage and medical treatment, patient transportation to hospitals, and coordination with local law enforcement activities. Twenty-seven teams have been initiated. The goal of the federal government is to develop MMSTs for the 100 most populous cities in the US.
  - **National Medical Response Team (NMRT).** The NMRTs are comprised of medical personnel. These teams are capable of agent identification, patient decontamination, triage, and medical treatment in support of local health systems. There are three NMRTs.
  - **Centers for Disease Control and Prevention.** The CDC capabilities are epidemiological surveillance, biological-agent identification, and public-health consultation and response.
  - **Agency for Toxic Substances and Disease Registry (ATSDR).** The ATSDR provides consultation and advice on

issues relating to the release or threatened release of hazardous substances.

- **Federal Drug Administration (FDA).** The FDA provides regional laboratory support and surveillance assistance in support of public health.
- **Substance Abuse and Mental Health Services Administration (SAMHSA).** The SAMHSA provides mental-health support and crisis counseling during emergencies.
- Federal Bureau of Investigation.
  - **Hazardous Materials Response Unit (HMRU).** The HMRU is capable of specialized sampling, detection, and identification of NBC agents. It is also equipped with a variety of personal-protective (OSHA Levels A through C) and rescue equipment.
  - **Evidence Response Teams.** The evidence response teams main functions are crime scene documentation and evidence collection in support of criminal investigations. Some evidence response teams are HAZMAT-trained.
  - **Critical-Incident Response Group (CIRG).** These teams are specially assembled to conduct tactical and crisis management efforts.
  - **Intelligence Collection and Analysis.** The FBI has experts that contribute to and coordinate detailed interagency threat assessment activities.
- Environmental Protection Agency.
  - **OSCs.** Under the authority of the NCP, EPA OSCs coordinate all federal containment, removal, and disposal efforts and resources during an incident.
  - **Environmental Response Team.** The EPA environmental response team provides 24-hour access to special decontamination equipment for chemical releases and advice to the OSC in hazard evaluation, risk assessment, multimedia sampling and analysis, on-site safety, clean up techniques, and more. The environmental response team has portable chemical-agent instrumentation that is capable of detection and identification in the low and sub parts per million (ppm), as well as entry level capabilities using Levels A through C PPE.
  - **Radiological Emergency Response Team (RERT).** The EPA RERT provides on-site monitoring and mobile laboratories for field analysis of samples, along with expertise in radiation health physics and risk assessment. The RERT is accessible 24 hours per day.
  - **Environmental Radiation Ambient Monitoring System (ERAMS).** The EPA operates the ERAMS for monitoring radioactivity in samples of precipitation, air, surface water, drinking water, and milk. In the event of a radiological

emergency, sampling at the approximately 260 monitoring sites can be increased to provide information on the spread of contamination.

- **Radiation Environmental Laboratories.** The EPA has state-of-the-art radiological laboratories in Montgomery, Alabama, and Las Vegas, Nevada. By quickly characterizing radiation sources, these two laboratories can offer advice on how best to protect public health in emergencies.
  - **EPA Research Laboratories.** The EPA has 12 research laboratories that offer programs in field monitoring, analytical support, and other technical support to quality assurance programs related to air, water, wastewater, and solid waste. Five of these laboratories are capable of deploying mobile units to a contaminated site for CB analysis.
  - **National Enforcement Investigations Center (NEIC).** The EPA NEIC offers expertise in environmental forensic evidence collection, sampling, and analysis; computer forensic and information management; and enforcement-related analysis.
- Department of Energy.
    - **Radiological Assistance Program (RAP).** The RAP provides the initial DOE radiological emergency response. Under the RAP, there are several RATs to assist in identifying the presence of radioactive contamination on personnel, equipment, and property at the incident or accident scene. These teams also provide advice on personnel monitoring and decontamination and material recovery.
    - **Radiation Emergency Assistance Center/Training Site (REAC/TS).** The REAC/TS provides 24-hour medical consultation on health problems associated with radiation accidents. It also provides training programs for emergency response teams comprised of health professionals.
    - **Nuclear Emergency Search Team (NEST).** The NEST provides technical responses to the resolution of incidents involving improvised nuclear and radiological dispersal devices. The team is able to search, locate, and identify devices or material.
    - **Joint Technical Operations Team (JTOT).** The JTOT is a combined DOD and DOE team that provides technical advice and assistance to the DOD.
    - **Aerial Measuring System (AMS).** The AMS can be mounted on helicopters and fixed-wing aircraft to respond to radiological emergencies. Its capabilities include aerial radiation surveys and search (gamma spectroscopy), real-time radiological aerial sampling, aerial photography survey, and aerial multispectra scanning surveys.
    - **Atmospheric Release Advisory Capability (ARAC).** The ARAC provides real-time computer predictions of the

atmospheric transport of radioactivity from a nuclear incident or accident.

## **TOXIC INDUSTRIAL MATERIAL REFERENCE DATA WEBSITES**

G-80. Multiple data sources are available for data and information to support the military decision-making process. These sources include several federal agency data sources. Selected data sources are provided in this appendix.

## **AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY**

G-81. ATSDR produces “toxicological profiles” for hazardous substances found at national priorities list (NPL) sites. These hazardous substances are ranked based on their frequency of occurrence at NPL sites, toxicity, and potential for human exposure. Toxicological profiles are developed from a priority list of 275 substances.

<http://www.atsdr.cdc.gov/hazdat.html>

## **NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK 2000**

G-82. The US DOT, Transport Canada, and the Secretariat of Communications and Transportation of Mexico (SCT) developed the North American Emergency Response Guidebook (NAERG) 2000 jointly for use by firefighters, police, and other emergency services personnel who may be the first to arrive at the scene of a transportation incident involving a HAZMAT. It is primarily a guide to aid first responders in quickly identifying the specific or generic classification of the material(s) involved in the incident. It provides information on how to protect themselves and the public during the initial response phase of the incident. The ERG is updated every 3 years to accommodate new products and technology. ERG 2000 incorporates dangerous goods lists from the most recent United Nations (UN) recommendations as well as from other international and national regulations.

<http://hazmat.dot.gov/guidebook.htm>

G-83. The DOT goal is to place one ERG 2000 in each emergency service vehicle, nationwide, through distribution to state and local public safety authorities. To date, more than seven million copies have been distributed without charge to the emergency responder community. Copies are made available free of charge to public emergency responders through the state coordinators (US only). In Canada, contact CANUTEC at 613-992-4624 or via the internet at [canutec@tc.gc.ca](mailto:canutec@tc.gc.ca) for information. In Mexico, call SCT at 52-5-684-1275.

## **NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH POCKET GUIDE TO CHEMICAL HAZARDS**

G-84. The National Institute of Occupational Safety and Health (NIOSH) pocket guide (NPG) is intended as a source of general industrial hygiene information for workers, employers, and occupational health professionals. The NPG presents key information and data in abbreviated tabular form for 677 chemicals or substance groupings (such as manganese compounds, tellurium compounds, inorganic tin compounds)

that are found in the work environment. The industrial hygiene information found in the NPG should help users recognize and control occupational chemical hazards. The chemicals or substances contained in this revision include all substances for which the NIOSH has recommended exposure limits (RELs) and those with permissible exposure limits (PELs) as found in the OSHA General Industry Air Contaminants Standard (29 CFR 1910.1000).

(<http://www.cdc.gov/niosh/npg/npg.html>)

G-85. The information in the NPG includes chemical structures and formulas, identification codes, synonyms, exposure limits, chemical and physical properties, incompatibilities, reactivities, measurement methods, respirator selections, signs and symptoms of exposure, and procedures for emergency treatment.

## **REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES**

G-86. The Registry of Toxic Effects of Chemical Substances (RTECS) provides toxicological information with citations on over 140,000 chemical substances. These detailed profiles include toxicological data and reviews, international workplace exposure limits, references to US standards and regulations, analytical methods, and exposure and hazard survey data. The data is compiled into substance records for ease of use, and updated data is fully integrated. (<http://www.cdc.gov/niosh/rtecs.html>)

## **INTERNATIONAL CHEMICAL SAFETY CARDS**

G-87. The International Programme on Chemical Safety (IPCS) is a joint activity of three cooperating international organizations: the UN Environment Program (UNEP), the International Labor Organization (ILO), and the World Health Organization (WHO). The main objective of the IPCS is to carry out and disseminate evaluations of the hazards posed by chemicals to human health and the environment.

(<http://www.cdc.gov/niosh/ipcs/icstart.html>)

G-88. International Chemical Safety Cards (ICSCs) summarize essential health and safety information on chemicals for their use at the “shop floor” level by workers and employers in factories, agriculture, construction, and other workplaces. ICSCs are not legally binding documents, but consist of a series of standard phrases, mainly summarizing health and safety information collected, verified, and peer-reviewed by internationally recognized experts, taking into account advice from manufacturers and poison control centers.

G-89. The IPCS intends to generate approximately 2,000 ICSCs in the next 6 years. Efficient support from IPCS principal investigators (PIs) specialized in chemical safety and through international cooperation with the European Union could lead to a production rate of about 350 cards per annum (approximately 25 cards per PI and for a group of 15 PIs).

## **CHEMICAL HAZARDS RESPONSE INFORMATION SYSTEM**

G-90. The Chemical Hazards Response Information System (CHRIS) database is a comprehensive source of emergency response information for those involved in the transport of hazardous materials. The database

is based upon the text of the USCG-printed CHRIS manual. It is useful for many different types of emergencies, including spills.

G-91. Records for more than 1,300 HAZMATs are provided in English. Each record for a HAZMAT contains key identification data such as synonyms, chemical abstract service (CAS) numbers, hazard labels, and observable characteristics. In addition, information useful for emergency response situations (such as health, fire, and reactivity hazards; first aid; water pollution; shipping and hazard classifications; and physical and chemical properties) is included in each record.

(<http://www.uscg.mil/hq/g%2dm/mor/articles/chris.htm#electron>)

## **HAZARDOUS SUBSTANCES DATA BANK**

G-92. The hazardous substances data bank (HSDB) is a factual, nonbibliographic data bank created and maintained by the National Library of Medicine in the USA. It provides extensive information on identification, manufacturing, use, chemical and physical properties, safety, handling, human and nonhuman toxicity, pharmacology, environmental fate and exposure, regulations, and analytical determinations of chemical substances. HSDB information is organized into records for over 4,500 chemical substances.

(<http://www.nlm.nih.gov/pubs/factsheets/hsdbfs.html>)

## **INTEGRATED RISK INFORMATION SYSTEM**

G-93. The Integrated Risk Information System (IRIS) is prepared and maintained by the US EPA. The IRIS electronic database contains health risk and US EPA regulatory information on almost 700 specific substances. It contains over 5,500 pages of printed information in a fully indexed, searchable database. The chemical files contain descriptive and numerical information regarding—

- Oral reference doses and inhalation reference concentrations for chronic noncarcinogenic health effects.
- Hazard identification, oral slope factors, and oral and inhalation unit risks for carcinogenic effects.
- Background documents and references that describe the rationale and methods used to develop the values and associated information in the chemical files.
- A glossary of scientific terms used in the chemical files and background documents and a definition of acronyms and abbreviations used.
- Supplementary data on acute health hazards and physical/chemical properties.
- Bibliographic citation.

(<http://www.epa.gov/iris/>)

## **RISK MANAGEMENT PROGRAM**

G-94. When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The RMP regulation builds upon existing industry codes and standards and requires companies of all sizes that use certain flammable and toxic

substances to develop an RMP that includes a hazard assessment detailing the potential effects of an accidental release, an accident history for the last 5 years, and an evaluation of worst-case and alternative accidental releases. (<http://www.epa.gov/swercepp/acc-pre.html>)

G-95. The goal of the RMP is to reduce chemical risks at the local level. RMPs contain a summary of information about each facility RMP. This information helps local fire, police, and emergency response personnel (who must prepare for and respond to chemical accidents) and is useful to citizens in understanding the chemical hazards in communities. Making the RMPs available to the public is intended to stimulate communications between industry and the public to improve accident prevention and emergency response practices at the local level.

#### **CHEMICAL RIGHT-TO-KNOW HIGH-PRODUCTION VOLUME CHALLENGE PROGRAM CHEMICAL LIST**

G-96. The US high-production volume (HPV) chemicals are those that are manufactured or imported into the US in amounts equal to or greater than one million pounds per year. The US HPV chemicals were identified through information collected under the Toxic Substances Control Act (TSCA) inventory update rule (IUR). Organic chemicals that are manufactured in or imported into the US in amounts equal to or exceeding 10,000 pounds per year are subject to reporting under the TSCA IUR. Reporting is required every four years. The HPV challenge program chemical list contains about 2,800 chemicals. (<http://www.epa.gov/opptintr/chemrtk/index.htm>)

#### **EXTREMELY HAZARDOUS SUBSTANCES CHEMICAL PROFILES AND EMERGENCY FIRST AID GUIDES**

G-97. The Extremely Hazardous Substances (EHS) Chemical Profiles and Emergency First Aid Guide contains information on over 300 EHS currently listed as part of Section 302 of the Emergency Planning and Community Right-to-Know Act. Each chemical profile includes physical/chemical properties, health hazards, fire and explosion hazards, reactivity data, precautions for safe handling and use, and protective equipment for emergencies. The first aid guide provides signs and symptoms of poisoning and emergency treatment for first responders. The chemical profiles and first aid guides may be accessed from either the CAS number or the alphabetical list of EHS. ([http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/ehs\\_2003.htm?openDocument](http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/ehs_2003.htm?openDocument))

#### **IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONCENTRATIONS**

G-98. The current list of 387 chemicals that are IDLH was developed in the mid-1970s when only limited toxicological data was available for many of the substances. NIOSH has recently requested information on the current use of IDLHs in the workplace and on the scientific adequacy of the criteria and procedures originally used for establishing them. (<http://www.cdc.gov/niosh/idlh/idlhintr.html>)

G-99. The latest version includes IDLHs for an additional 85 substances (such as benzene and methylene chloride) determined by NIOSH to meet the OSHA definition of “potential occupational carcinogen” as given in 29 CFR 190.103. For all of these substances, except ethylene oxide and

crystalline silica, NIOSH recommends that workers exposed at concentrations above the NIOSH REL or at any detectable concentration when there is no REL wear the “most protective” respirators. For ethylene oxide and crystalline silica, NIOSH recommends that the “most protective” respirators be worn in concentrations exceeding 5 ppm and 25 milligrams (mg)/m<sup>3</sup>, respectively (NIOSH 1989, 1994).

#### **GENERAL DENNIS J. REIMER TRAINING AND DOCTRINE DIGITAL LIBRARY**

G-100. The General Dennis J. Reimer Training and Doctrine Digital Library is the single repository of approved Army training and doctrine information. As such, it contains several applicable TIM references to be used by CSTs. (<http://www.adtdl.army.mil/>)

#### **NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**

G-101. The NOAA conducts research and gathers data about the global oceans, atmosphere, space, and sun and applies this knowledge to science and service that touch the lives of all Americans. (<http://www.noaa.gov/>)

G-102. NOAA warns of dangerous weather, charts our seas and skies, guides our use and protection of ocean and coastal resources, and conducts research to improve our understanding and stewardship of the environment that sustains us all.

G-103. A Commerce Department agency, NOAA provides these services through five major means: the National Weather Service (NWS); the National Ocean Service (NOS); the National Marine Fisheries Service; the National Environmental Satellite, Data, and Information Service (NESDIS); and NOAA research and numerous special program units. In addition, NOAA research and operational activities are supported by the seventh US uniformed service, the NOAA Corps, a commissioned officer corps of men and women who operate NOAA ships and aircraft and serve in scientific and administrative posts.